CLAIMS:

1. In a method of packaging food products, a method of forming a film into a sleeve disposed around a filling tube, the method comprising:

feeding the film in a film feed direction over a continuous film entrance surface to an entrance of a folding tunnel, at least a portion of the entrance surface being inclined at an acute angle to an upstream extension of a longitudinal axis of the folding tunnel;

folding a first longitudinal side portion of the film at least partially around the filling tunnel using a first folding wing of the folding tunnel as the film is fed in the film feed direction;

folding a second longitudinal side portion of the film, disposed opposite the first longitudinal side portion of the film, at least partially around the filling tube and overlapping at least a portion of the first longitudinal side portion of the film using a second folding wing of the folding tunnel as the film is fed in the film feed direction to form the sleeve.

2. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 1, wherein the method is part of a continuous, automated and high speed form-fill-seal operation, the method further comprising inserting food product into the sleeve using the filling tube.

3. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 1, wherein the acute angle between the portion of the entrance surface and the upstream extension of the longitudinal axis of the folding tunnel is selected to have a ratio of longitudinal tensile forces in the film

before the continuous film entrance and after the folding tunnel be between 1:1 and 2:1.

4. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 1, wherein the acute angle between the portion of the entrance surface and the upstream extension of the longitudinal axis of the folding tunnel is between 40 degrees and 90 degrees.

5. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 1, wherein the steps of folding a first longitudinal side portion of the film using a first folding wing of the folding tunnel and folding a second longitudinal side portion of the film using a second folding wing of the folding tunnel each further comprise the steps of feeding the film around a folding wing contact edge of each folding wing, each folding wing contact edge having a thickness of between 0.10 and 0.25 inches and comprising an arcuate portion in contact with the film.

6. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 1, wherein the steps of folding a first longitudinal side portion of the film using a first folding wing of the folding tunnel and folding a second longitudinal side portion of the film using a second folding wing of the folding tunnel each further comprise the steps of feeding the film around a folding wing contact edge of each folding wing, each folding wing contact edge being positioned at an acute angle relative to a longitudinal axis of the folding tunnel.

7. A method of forming a film into a sleeve

disposed around a filling tube in accordance with claim 6, including the step of generally maintaining constant tensile forces along a transverse width of the film as the film is formed into a sleeve.

8. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 7, wherein the step of generally maintaining constant forces along a transverse width of the film as the film is formed into a sleeve includes the step of feeding the film over film contact surfaces of the continuous film entrance surface, the first and second folding wings, and the folding tunnel selected to maintain a generally constant length of the film between a beginning of the continuous film entrance and the end of the folding tunnel in the film feed direction.

9. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 2, wherein the film used in the continuous, automated and high speed form-fill-seal operation is less than 0.0014 inches in thickness.

10. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 2, wherein the continuous, automated and high speed form-fill-seal operation includes the step of continuous filling the sleeve with a flowable food product.

11. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 10, wherein the flowable food product is cheese.

12. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim

11, wherein the continuous, automated and high speed form-fill-seal operation is used to fill the sleeve with the cheese in order to make single slices of packaged cheese at a rate of about 3000 slices per minute.

13. An apparatus for forming a film into a sleeve around a filling tube, the apparatus comprising:

a continuous film entrance surface operably connected to an entrance of a folding tunnel, at least a portion of the entrance surface being inclined at an acute angle relative to an upstream extension of a longitudinal axis of the folding tunnel;

a first folding wing of the folding tunnel positioned for folding a first longitudinal side portion of the film at least partially around the filling tunnel;

a second folding wing of the folding tunnel positioned for folding a second longitudinal side portion of the film, disposed opposite the first longitudinal side portion of the film, at least partially around the filling tunnel and overlapping at least a portion of the first longitudinal side portion of the film to form the sleeve.

14. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 13, wherein the continuous film entrance surface comprises a generally planar central portion positioned between a pair of curved side portions.

15. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 14, wherein the curved side portions of the continuous film entrance surface are each connected to one of the first and second folding wings.

16. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 13, wherein the acute angle between the portion of the entrance surface and the upstream extension of the longitudinal axis of the folding tunnel is selected to have the ratio of forces on the film before the continuous film entrance and after the folding tunnel be between 1:1 and 2:1.

17. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 13, wherein the acute angle between the portion of the entrance surface and the folding tunnel is between 40 degrees and 90 degrees.

18. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 13, wherein each of the first and second folding wings includes a folding wing contact edge being arcuate and having a radius of between 0.05 and 0.15 inches, each folding wing contact edge being positioned at an acute angle relative to a longitudinal axis of the folding tunnel.

19. An apparatus for forming a film into a sleeve around a filling tube in accordance with claim 13, wherein film contact surfaces of the continuous film entrance surface, the first and second folding wings, and the folding tunnel selected to maintain a generally constant length of the film between a beginning of the continuous film entrance and the end of the folding tunnel in the film feed direction.

20. An apparatus for forming film into a sleeve around a filling tube in accordance with claim 19,

wherein a maximum transverse width of the contact surfaces of the folding tunnel and first and second folding wings in an unfolded configuration of the folding tunnel is approximately the same as a transverse width of the film.

21. An apparatus for forming film into a sleeve around a filling tube in accordance with claim 20, wherein the apparatus is formed of material approximately 0.125 inches thick.

22. An apparatus for forming film into a sleeve around a filling tube in accordance with claim 21, wherein material comprises stainless steel 17-4PH and the contact surfaces of the apparatus are free of plating.

23. A method of forming a film into a sleeve disposed around a filling tube, the method comprising:

feeding the film in a film feed direction through a folding tunnel disposed around the filling tube, the folding tunnel and filling tube each being operatively connected to a common support member;

folding a first longitudinal side portion of the film at least partially around the filling tunnel as the film moves in the film feed direction;

folding a second longitudinal side portion of the film, disposed opposite the first longitudinal side portion of the film, at least partially around the filling tunnel and overlapping at least a portion of the first longitudinal side portion of the film as the film moves in the film feed direction to form the sleeve; and

the common support member constraining the folding tunnel and filling tube against significant displacement relative to one another.

24. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 23, wherein the common support member is pivotally connected by a pivot relative to a support bracket effective to allow selective rotation of the forming tube and filling tunnel relative to the support bracket.

25. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 24, wherein a second folding tunnel is disposed around a second filling tube is disposed adjacent the folding tunnel and folding tube and operably attached relative to the support bracket, the common support member being pivotable about the pivot to provide access to the second folding tunnel and second filling tube.

26. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 23, further comprising the step of stabilizing the forming tunnel relative to the filling tube using the common support member effective to permit spacing between outer surfaces of the filling tube and adjacent inner surfaces of the forming tunnel to be minimized.

27. A method of forming a film into a sleeve disposed around a filling tube, the method comprising:

feeding the film in a film feed direction through a folding tunnel disposed around the filling tube, the folding tunnel having a first longitudinal portion and a second longitudinal portion selectively separable relative to the second longitudinal portion;

folding a first longitudinal side portion of the film at least partially around the filling tunnel as the film moves in the film feed direction using a first folding wing attached to the first longitudinal portion

of the forming tunnel;

folding a second longitudinal side portion of the film, disposed opposite the first longitudinal side portion of the film, at least partially around the filling tunnel and overlapping at least a portion of the first longitudinal side portion of the film as the film moves in the film feed direction using a second folding wing attached to the second longitudinal portion of the forming tunnel to form the sleeve.

28. A method of forming a film into a sleeve disposed around a filling tube in accordance with claim 27, wherein a first mounting bracket is attached to the first longitudinal portion of the forming tunnel and a second mounting bracket is attached to the second longitudinal portion of the forming tunnel, the first and second mounting brackets having a connection mechanism therebetween permitting selective separation of the first and second mounting brackets and the first and second longitudinal side portions effective to permit access to the interior of the forming tunnel.